REMARKS

Claims 10-32 are pending in the application. Claims 10-24 have been withdrawn from consideration by the Office Action as being directed to non-elected subject matter. Claims 25-32 have been examined.

Claim 25 has been amended to remove the phrase "using cell dimensions of approximately a=39Å, b=72 Å, c=120 Å, α=90°, β=90°, γ=90° in the space group $P2_12_12_1$."

Claim 26 has been amended to remove the phrase "using cell dimensions of approximately a=62Å, b=72 Å, c=70 Å, α=90°, β=93°, γ=90° in the space group $P2_1$."

By these amendments no new matter has been added.

REJECTION UNDER 35 U.S.C. § 112

The Office Action has rejected Claims 25-32 under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention. Applicants believe the amendments to Claims 25 and 26 obviate this rejection.

The Office action stated that the phrase "using cell dimensions of approximately a=39Å, b=72 Å, c=120 Å, α=90°, β=90°, γ=90° in the space group $P2_12_12_1$" in Claim 25 and the phrase "using cell dimensions of approximately a=62Å, b=72 Å, c=70 Å, α=90°, β=93°, γ=90° in the space group $P2_1$" in Claim 26 renders the claim indefinite because "unite [sic] cell dimensions are the property of a crystal not a protein." As suggested by the Office Action, Claims 25 and 26 have been amended to delete the phrases beginning "using cell dimensions…"

Applicants respectfully request reconsideration and withdrawal of the rejection of Claims 25-32 under 35 U.S.C. § 112, second paragraph.

REJECTION UNDER 35 U.S.C. § 103(a)

The Office Action has rejected Claims 25-32 under 35 U.S.C. § 103(a), as allegedly obvious over Cohen *et al*. "Molecular Modeling Software and Methods for Medicinal Chemistry" *J. Med. Chem*. (1990), 33(3), pp. 883-889 (hereinafter "Cohen") in view of Fachinger *et al*. "Functional interaction of vascular endothelial-protein-tyrosine phosphatase with the Angiopoietin receptor Tie-2" *Oncogene* (1999), Vol. 18, pp. 1189-1198 (hereinafter "Fachinger"). The Office Action's rejection is respectfully traversed.

The rejections of the Office Action dated June 12, 2007 are maintained. That Office Action states "Cohen *et al.* [discloses] the commercial availability of computers and various packages software used for imaging and identifying potential drugs using atomic coordinates of biological molecules." The Cohen publication is a review article published in 1990 and begins by stating "[m]olecular modeling has become a well-established research area during the last decade due to advances in computer hardware and software that have brought high-performance computing and graphics within the reach of most academic and industrial laboratories."

Claim 25, step (a) recites "imaging, through the use of computer modeling of X, Y and Z atomic structure coordinates set forth in Figures 202-252, an HPTPbeta catalytic domain [SEQ ID NO:7]." Claim 26 utilizes Figures 7-102. Thus the atomic coordinates of the HPTPbeta catalytic domain are used to provide an image, for example, a computer projection, of the catalytic domain so that the user can better visualize the 3-dimmensional space of the domain. However, in order to project this image, the atomic coordinates had to be obtained and these coordinates were obtained by the Applicants.

Step (b) recites "computationally positioning a drug candidate compound at one or more areas of said imaged HPTPbeta catalytic domain [SEQ ID NO:7] by using a binding mode of said drug candidate compound with said area(s) of said imaged HPTPbeta catalytic domain." There are no exact atomic coordinates corresponding to the catalytic domain, rather there are one or more areas wherein a drug candidate may or may not elicit a fit *in silico* which bears out when tested *in vitro* or *in vivo*. In addition, there does not exist one single preferred "binding mode" to determine how well a drug candidate will register within the catalytic domain. Thus step (c) of Claims 25 and 26 recite "analyzing" whether the drug candidate binds or modulates HPTPbeta in a confirmatory test. Thus, because there is more than one area that can be a substrate binding site and because each area allows for different modes of "positioning" the drug candidate by the user, Claims 25 and 26 are not merely directed to the use of a computer program to find a drug candidate as suggested by the Office Action. Instead, the method involves the thoughtful use of a research tool discovered by the user to enhance the speed at which viable candidates for HPTPbeta modulation can be determined.

The Office Action further states that Fachinger discloses "HPTPbeta is the human analog of VE-PTP and suggested that the human [enzyme has] the same function [as] VE-PTP in regulating Tie-2." This citation is a reiteration of that which Applicants have recited at page 1,

lines 13-14, "HPTPbeta (Kruegar et al. EMBO J., 9, (1990) has been suggested *inter alia* for modulating the activity of angiopoietin receptor-type tyrosine kinase TIE-2."

The Fachinger disclosure relates to an "analysis of the *in vivo* expression of VE-PTP mRNA by *in situ* hybridization to frozen sections of mouse embryonic tissues" in that "[s]trong hybridization signals were visible in endothelial cells forming blood vessels, whereas no specific signals were detected in blood cells or smooth muscle cells surrounding the vessels." (*See* the second paragraph of page 5948.) As such, the Fachinger disclosure is absent any teaching or suggestion relating to a method for identifying a drug compound for the treatment of an angiogenesis mediated disorder or that a method for identifying a drug compound for the treatment of an angiogenesis mediated disorder is desirable.

The Office Action has failed to establish a case of obviousness by asserting a combination of the teachings of Cohen and Fachinger. Cohen does nothing more than establish the fact that molecular modeling exists *per se*. Therefore, Cohen establishes nothing more than what the artisan already knows; computers are used for drug design. Fachinger does not suggest developing a method for identifying a compound that modulates the activity of HPTPbeta specifically for finding a potential treatment of an angiogenesis mediated disorder. Instead, Fachinger concludes "[f]uture studies toward the identification of potential ligands of VE-PTP will help to clarify its biological activity." Thus Fachinger does not disclose that modulation of VE-TPT, and hence the human homologue, HPTPbeta, activity would lead to a basis for treating an angiogenesis mediated disorder.

Applicants respectfully request reconsideration and withdrawal of the rejection of Claims 25-32 under 35 U.S.C. § 103(a).

CONCLUSION

The Examiner is invited and encouraged to directly contact the undersigned if such contact may enhance the efficient prosecution of this application to issue.

A credit card payment submitted *via* EFS Web in the amount of $930.00, which includes the fee of $525.00 for a small entity under 37 C.F.R. § 1.17(a)(3) for a Three-Month Extension of Time, and the fee of $405.00 for a small entity under 37 C.F.R. § 1.17(e) for the Request for Continued Examination is enclosed. This amount is believed to be correct; however, the

Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 14-0629.

Respectfully submitted,

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CERTIFICATE OF ELECTRONIC TRANSMISSION UNDER 37 C.F.R. § 1.8			
I hereby certify that this correspondence, including any items indicated as attached or included, is being transmitted via electronic transmission via EFS-Web on the date indicated below.			
Name of Person Signing (Print/Type)	Richard S. Echler		
Signature	/ Richard S. Echler/	Date	May 8, 2008